

Application No. 10/038,255

(Jebaraj)

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89. A self-contained air-conditioned enclosure assembly providing a climate controlled environment therein the enclosure assembly comprising:

- i) a collapsible self-supporting enclosure, wherein said enclosure includes a roof, four sidewalls extending downwardly from said roof, said sidewalls having an upper portion and a lower portion, an enclosed space, at least one first opening, and the enclosed space is cuboid shaped and is of sufficient size capable of receiving at least one occupant,
- ii) a plurality of sidewalls descending from said roof, said sidewalls having two wall sheets and a plurality of spacer strips positioned there between so that spaces are formed between said wall sheets and said spacer strips, and
- iii) a climate control device connectable to said enclosure, having a climate controlling outlet directly connectable to said opening of the enclosure to supply climate controlled air to the enclosed space,

whereby said enclosure is capable of accepting a slab, said slab having an underside, and defines an enclosed space when erected, said enclosed space is bounded by said roof, said slab, and said lower portion of said side walls surround said slab, said slab located within said enclosed space, said sidewalls incorporates said opening and said climate controlling outlet of said climate control device is directly connected to said first opening to supply climate controlled air to said occupant of said enclosed space.

90. The enclosure assembly of claim 89, wherein the enclosure is capable of accepting a slab, said slab having an underside, said slab is of sufficient size capable of receiving at least one occupant and said enclosure further includes:

- i) a roof and,
- ii) four sidewalls extending downwardly from said roof, said sidewalls having an upper portion and a lower portion,

whereby the enclosed space is bounded by said roof, said slab when accepted, said lower portion of said side walls surround said slab, said slab located within said enclosed space, and said sidewalls; and said sidewalls incorporates said opening, said opening being capable of receiving the climate controlling outlet of said climate control device.

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91. The enclosure assembly of claim 89, wherein the self-supporting enclosure includes a plurality of frame members forming a support structure that supports said roof and said sidewalls, said support structure comprising plurality of frame members.
92. The enclosure assembly of claim 89, wherein the sidewalls are comprised of two transparent plastic sheets having a plurality of spacer strips positioned therebetween so that spaces are formed between said wall sheets and said spacer strips, and wherein the lower portion of said sidewalls are capable of wrapping around to the underside of the accepted slab.
93. The enclosure assembly of claim 89, wherein the enclosure further includes a second opening to exit air from said enclosed space, positioned at a substantial distance from said first opening, and said sidewalls incorporates said second opening, whereby said climate control device is directly connected to said first opening to supply climate controlled air to said enclosed space and said second opening exit air from said enclosed space.
94. The enclosure assembly of claim 89, wherein said climate control device includes:
 - i) a main housing having four vertical sides, a floor and an interior space,
 - ii) an air plenum located in said main housing,
 - iii) a fresh air chamber having a first open end in communication with said air plenum and a second open end in communication with the surrounding environment and is capable of receiving fresh air from the surrounding environment, whereby said fresh air chamber is otherwise isolated from said interior space of said main housing and is capable of supplying fresh air to said air plenum,
 - iv) a first air moving device located within said air plenum for inducing air movement between said enclosure and said climate control device,
 - v) a first heat transfer means fixed adjacent to said air moving device, whereby air moved by said first air moving device through said first heat transfer means is thermally conditioned,

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whereby said climate controlling outlet of said climate control device is located adjacent to said first heat transfer means, said climate controlling outlet having an extremity that is connectable to said opening of the enclosure, and a duct structure that directs the thermally conditioned air to said enclosure.

95. The enclosure assembly of claim 94, wherein said climate control device further includes:
 - i) a filtering device located in said interior space and adjacent to said first air moving device, said filtering device purifies the air moved by said first air moving device, and
 - ii) a control panel connected to at least the first air moving device to control conditioned air delivery to said enclosure.
96. The enclosure assembly of claim 94, wherein said climate control device further includes an exit air duct extending from said main housing, communicating with said air plenum, having an extremity that is connectable to said second opening of the enclosure, and capable of conveying air from said enclosure to said air plenum.
97. The enclosure assembly of claim 94, wherein said climate control device further includes:
 - i) a compressor chamber located adjacent to said floor of said main housing, having a compressor fixed on said floor, and isolated from said air plenum by the duct structure of said climate control outlet, and
 - ii) a second air moving device fixed adjacent to said compressor chamber.
98. The enclosure assembly of claim 97, wherein said climate control device further includes an exhaust air duct connected to said second air moving device and extends through one of the sides of said main housing preferably on the opposite side of said climate controlling outlet, wherein said exhaust air duct is preferably flexible, collapsible, and light weight round air duct, whereby air moved by said second air moving device is exhausted.
99. The enclosure assembly of claim 94, wherein said climate control device further includes a heat transfer duct, adjacent to said fresh air chamber, having one end communicating with said air plenum and an opposed end connected to said compressor chamber whereby air from said air plenum is exhausted to said compressor chamber.

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100. The enclosure assembly of claim 99, wherein said climate control device further includes an air damper pivotally mounted adjacent to said heat transfer duct, mechanically linked to said control panel, and capable of adjusting air flow from said air plenum to said compressor chamber.
101. A method of controlling at least a temperature within a enclosed space capable of receiving at least one occupant, the method comprising the steps of:
 - i) Erecting a temporary structure, wherein when erected the structure defines the enclosed space, the structure having:
 - i. a roof,
 - ii. a plurality of sidewalls descending from said roof, said sidewalls having two wall sheets and a plurality of spacer strips positioned there between so that spaces are formed between said wall sheets and said spacer strips, and
 - iii. an inlet opening, and said sidewall incorporating said inlet opening;
 - ii) coupling an air-conditioning device to the inlet opening, and
 - iii) operating said air-conditioning device, wherein said air-conditioning device delivers conditioned supply air stream to said enclosed space.
102. The method of claim 101, further comprising a method of improving operational efficiency, the method comprises the step of recovering thermal energy at least in part from an exhaust air stream to the supply air stream of said temporary structure.
103. The method of claim 102, wherein the step of recovering thermal energy at least in part from an exhaust air stream includes at least in part transferring heat to said air-conditioning device having a condenser coil.